

IN THE CLAIMS:

Please cancel claims 2, 3, 24, 26 and 27 without prejudice or disclaimer.

Please amend claims 1, 4-23, 25, 30, 31 and 32 as follows:

1. (Currently Amended) An ink suitable for application to a heat resistant substrate and firing to fuse the ink to the substrate, the ink being in a form for ink jet printing and comprising:-

a carrier material;

a pigment comprising ceramic pigment particles of less than 10 microns in size;

a fusible vitreous agent comprising particles of less than 10 microns in size, and

the carrier having a melting point for phase change of the ink.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) ~~An~~ The ink as claimed in claim 1 wherein the concentration of ceramic pigment in the ink is in the range of 10% to 60% by weight.

5. (Currently Amended) ~~An~~ The ink as claimed in claim 1 wherein the concentration of ceramic pigment in the ink is in the range of 20% to 50% by weight.

6. (Currently Amended) ~~An~~ The ink as claimed in claim 1 wherein the pigment and fusible vitreous agent are combined in the form of ceramic pigment particles.

7. (Currently Amended) ~~An~~ The ink as claimed in ~~any of claims~~ claim 1 wherein the particles are less than 5 microns in size.

8. (Currently Amended) ~~An~~ The ink as claimed in ~~any of claims~~ claim 1 wherein the ink comprises a dispersant.

9. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the particles are coated with the dispersant.

10. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant is chemisorbed onto the particles.

11. (Currently Amended) ~~An~~ The ink as claimed in claim 10 wherein the dispersant is chemisorbed onto the particles by drying in an oven for up to 24 hours.

12. (Currently Amended) ~~An~~ The ink as claimed in claim 11 wherein the temperature of the oven is at least 120°C.

13. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant is selected from a modified polyacrylate and fatty acid.

14. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant is selected from 12-hydroxystearic acid, stearic acid, tartaric acid, hydroxybenzoic acid and docosanoic acid.

15. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant comprises stearic acid.

16. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant is present in a concentration by weight of the ceramic pigment from 2 to 5%.

17. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the dispersant is present in a concentration by weight of the ceramic pigment of approximately 4%.

18. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the particles are coated with a dispersant in the presence of a solvent.

19. (Currently Amended) ~~An~~ The ink as claimed in claim 18 wherein the dispersant is soluble in the solvent.

20. (Currently Amended) ~~An~~ The ink as claimed in claim 19 wherein the solvent is toluene or butyl acetate.

21. (Currently Amended) ~~An~~ The ink as claimed in claim 8 wherein the particles are coated with a dispersant by ball milling or using a rotary dissolver.

22. (Currently Amended) ~~An~~ The ink as claimed in claim 1 wherein the carrier comprises a wax material.

23. (Currently Amended) ~~An~~ The ink as claimed in claim 22 wherein the carrier has a melting point of from 20 to 150°C, preferably ~~50 to 100°C~~.

24. (Cancelled)

25. (Currently Amended) ~~An~~ The ink as claimed in claim 1 wherein the pigment comprises organometallic particles and metallic components.

26. (Cancelled)

27. (Cancelled)

28. (Original) An ink suitable for application to a heat resistant substrate and firing to fuse the ink to the substrate, the ink being in a form for ink jet printing and comprising:-

a carrier having a melting point for phase change of the ink;

ceramic pigment particles of less than 10 microns in size;

fusible vitreous particles of less than 10 microns in size; and

a dispersant which is chemisorbed onto the particles.

29. (Original) A method of producing an ink in a form for ink jet printing comprising the steps of:-

milling a fusible vitreous agent to provide a powder having a particle size less than 10mm;

providing a pigment for the ink;

heating a phase change carrier, and mixing the powder with the molten carrier; and
allowing the carrier to cool to provide solid ink.

30. (Currently Amended) A The method as claimed in claim 29, in which the pigment is combined with the fusible vitreous agent as ceramic pigment particles.

31. (Currently Amended) A method of producing an ink comprising the steps of:-

milling a fusible vitreous agent to provide a powder having a particle size less than 10mm;

providing a pigment for the ink;

mixing the milled particles with a dispersant, and a solvent_{7,i}

removing the solvent;

heating the mixture to a temperature in excess of 120°C whereby the dispersant is chemisorbed onto the milled particles_{7,i}

heating a phase change carrier, and mixing the powder mixture with the molten carrier; and
allowing the carrier to cool to provide solid ink.

32. (Currently Amended) ~~A~~ The method as claimed in claim 31 wherein the pigment is combined with the fusible vitreous agent as ceramic pigment particles.

Please add new claims 33 and 34 as follows:

33. (New) An ink suitable for application to a heat resistant substrate and firing to fuse the ink to the substrate, the ink being in a form for ink jet printing and comprising:-

a carrier material;

a pigment;

a fusible vitreous agent comprising particles of less than 10 microns in size, and

the carrier having a melting point for phase change of the ink;

the particles being coated with a dispersant in the presence of a solvent, the dispersant being soluble in the solvent, and said solvent comprises one of toluene and butyl acetate.

34. (New) The ink as claimed in claim 23, wherein the carrier has a melting point of from 50 to 100°C.